

Radioactive Waste Acceptance Program

...at the Nevada Test Site

Overview

The Radioactive Waste Acceptance Program ensures safe waste disposal operations at the Nevada Test Site, which is one of the nation's approved sites for the disposal of low-level and mixed low-level radioactive waste resulting from the cleanup of the nuclear weapons complex.

Low-level radioactive waste refers to waste that typically contains small amounts of radioactive material and includes items like construction debris, trash, soil, and equipment.

Mixed low-level radioactive waste consists of low-level radioactive waste "mixed" with a hazardous constituent. Activities such as equipment maintenance, materials production, cleaning, environmental restoration, and facility deactivation and decommissioning can generate this type of waste.

Approval to ship waste to the Nevada Test Site is granted only after the waste generator certifies that the waste meets the rigorous Nevada Test Site Waste Acceptance Criteria. These criteria require generators to demonstrate that proposed waste does not exceed established limitations on certain contents, including free liquids, particulates, compressed gases, disease-causing or infectious agents, or explosive material.

The Nevada Test Site Waste Acceptance Criteria also conforms to the requirements of the Resource Conservation and Recovery Act (RCRA) which governs hazardous materials, from creation to disposal. Since mixed low-level waste contains hazardous constituents, disposal of this waste must be conducted in accordance with RCRA under a permit issued by the State of Nevada.

Strict Nevada Test Site requirements are also applied to waste packaging. These guidelines focus on the physical integrity of packages and are utilized to maintain safe disposal conditions at Nevada Test Site disposal facilities. In addition, waste containers must be labeled and shipped according to U.S. Department of Transportation regulations.

Waste Acceptance Process

The Nevada Test Site waste acceptance process begins when a generator submits its waste acceptance documentation, which consist of the following essential information:

- Waste profiles provide complete descriptions of the waste, such as its physical and radiological properties and the process the generator followed to analyze these properties.
- The Quality Assurance Program Plan provides assurances that the generator's overall waste management program meets the Nevada Test Site Waste Acceptance Criteria. A Waste Certification Official, who is independent from Waste Management budget and schedule concerns, is responsible for certifying that the waste meets the criteria. In addition, an independent quality assurance organization reviews all phases of the Waste Management program, including waste certification.

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- A list of qualified personnel that certify low-level and mixed low-level radioactive waste is also provided to Nevada Test Site personnel. Waste shipped to the Nevada Test Site is checked against these names to ensure that only waste with the proper signatures is accepted.



Nevada Test Site Radioactive Waste Acceptance Program personnel inspect the characterization process at a potential generator site.

After approval, Nevada Test Site Radioactive Waste Acceptance Program personnel conduct periodic facility evaluations, including audits and surveillances. If problems are identified during these evaluations, generators must resolve them and request review and approval before shipments will be accepted at the Nevada Test Site. If generator programs are found to be out of compliance at any time, the Nevada Test Site can suspend approvals.

Upon arriving at the Nevada Test Site Radioactive Waste Management Site, trucks carrying low-level and mixed low-level radioactive waste are monitored to make sure external radiation levels are below required limits. After a trailer is inspected to ensure that security seals are intact, the trailer is opened and monitored for radioactivity on the inside. As a trailer is unloaded, inspectors verify the physical integrity of the waste packages and check to make sure that container labels meet requirements. In order to be released from the waste management site, empty trailers undergo a final radiological survey to ensure compliance with U.S. Department of Transportation regulations.

In addition to the monitoring conducted at the Nevada Test Site, the Nevada Site Office has established an onsite x-ray technology to visually verify waste package contents. This technology combined with waste verification activities at the generator site, ensures that the waste form listed on the documentation is consistent with the waste form received for disposal.

What this Means for the Complex ...

The Nevada Site Office's commitment to safe disposal operations allows sites across the U.S. Department of Energy Complex to continue shipping low-level and mixed low-level waste and realize cleanup goals. The Radioactive Waste Acceptance Program provides the necessary framework for safe, successful waste shipments and disposal activities.

Prior to the review and acceptance of any waste stream, Nevada Test Site waste experts conduct a thorough onsite examination of a waste generator's facility through all stages of waste management, including generation, characterization, packaging, and shipment. If problems are identified during the audit, corrections must be made prior to Nevada Test Site approval for waste shipment and disposal.

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